

1     **PROVISIONING OF SERVICES BASED ON DECLARATIVE DESCRIPTIONS OF A**  
2             **RESOURCE STRUCTURE OF A SERVICE**

3                     **ABSTRACT**

4     The present invention is directed to provisioning and managing computing services in a  
5     computing utility system. It receives a Concrete Resource Model describing a desired resource  
6     structure. It uses a representation of the infrastructure, including resources, configuration,  
7     capabilities and constraints, as a knowledge subsystem. The method generates and executes  
8     provisioning actions to affect the infrastructure resources by creating a resource structure that  
9     matches the description in the Concrete Resource Model and satisfies the requirements described  
10    in the input. The method can be used to create new computing services, to destroy existing  
11    computing services, to modify the resource combination allocated to a computing service, or the  
12    configuration of these resources. Provisioning actions, generated, can be executed immediately,  
13    or saved and executed later, and possibly many times. Provisioning actions may be regenerated  
14    using the method whenever infrastructure characteristics, or the service requirements change.